Chapter E1: Background

INTRODUCTION

CHAPTER CONTENTS

This chapter presents an overview of the Phase II facilities in the South Atlantic study region and summarizes their key operating, economic, technical, and compliance characteristics. For further discussion of operating and economic characteristics of Phase II facilities, refer to Chapter A3 of the *Economic and Benefits Analysis for the Final Section 316(b) Phase II Existing Facilities Rule*; for further discussion of the technical and compliance characteristics of Phase II facilities, refer to the *Technical Development Document for the Final Section 316(b) Phase II Existing Facilities Rule* (U.S. EPA, 2004a,b).

E1-1 OVERVIEW

The South Atlantic Study includes 16 facilities that are in scope for the final Phase II regulation. Fifteen of the 16 facilities withdraw cooling water from an estuary or tidal river and one withdraws water from the Atlantic Ocean. Figure E1-1 presents a map of the 16 in-scope Phase II facilities located in the South Atlantic study region.

Figure E1-1: In-Scope Phase II Facilities in the South Atlantic Regional Study

Source: U.S. EPA analysis for this report.

E1-2 Operating and Economic Characteristics

Most of the 16 South Atlantic Study facilities (10) are oil/gas facilities; three are coal steam facilities; two are nuclear facilities; and one is a combined-cycle facility. In 2001, these 16 facilities accounted for 14 gigawatts of generating capacity, 65,000 gigawatt hours of generation, and $2.8 billion in revenues.

The operating and economic characteristics of the South Atlantic Study facilities are summarized in Table E1-1. Section E1-4 provides further information on each facility [including facility subregion, North American Electric Reliability Council (NERC) region, plant type, capacity, 2001 generation, and impingement and entrainment estimates were developed for the facility].

Table E1-1: Operating and Economic Characteristics of Phase II Facilities

Waterbody Type	Number of Facilities by Plant Type[a]					Total Capacity (MW)[b]	Total Generation (MWh)[b]	Electric Revenue (millions)
	Coal Steam	Combined Cycle	Nuclear	Oil/Gas Steam	Total			
Estuary/Tidal								
FL	1	1	-	8	10	8,361	32,039,494	$1,301
GA	-	-	-	2	2	750	97,088	$15
NC	-	-	1	-	1	1,790	13,843,547	$552
SC	2	-	-	-	2	1,265	5,921,762	$182
Subtotal	*3*	*1*	*1*	*10*	*15*	*12,166*	*51,901,891*	*$2,180*
Ocean								
FL	-	-	1	-	1	1,700	13,437,086	$637
TOTAL	**3**	**1**	**2**	**10**	**16**	**13,866**	**65,338,977**	**$2,817**

[a] Based on largest steam-electric capacity at facilities.
[b] MW is an abbreviation for megawatt; MWh is an abbreviation for megawatt hour.

Sources: Plant type (IPM Analysis, U.S. EPA, 2002; Form EIA-860, U.S. DOE, 2001a); capacity (Form EIA-860, U.S. DOE, 2001a); generation (Form EIA-906, U.S. DOE, 2001c); revenue (Form EIA-861, U.S. DOE, 2001b; Form EIA-906, U.S. DOE, 2001c).

E1-3 Technical and Compliance Characteristics

Twelve of the 16 South Atlantic Study facilities employ a once-through cooling system in the baseline; two facilities employ a combination cooling system; one facility employs a recirculating cooling system; and one facility employs an other type of cooling system. These 16 facilities incur a combined pre-tax compliance cost of $9 million. Table E1-2 summarizes the flow, compliance responses, and compliance costs for these 16 facilities.

Table E1-2: Technical and Compliance Characteristics of Phase II Facilities

	Cooling Water System (CWS) Type[a]				
	Once-Through	**Recirculating**	**Combination**	**Other**	**All**
Design Flow (MGD)	**10,730**	**99**	**819**	**824**	**12,471**
Number of Facilities by Compliance Response					
Fish H&R	3	-	-	-	3
Fine Mesh Traveling Screens w/ Fish H&R	1	-	1	-	2
New Larger Intake Structure with Fine Mesh and Fish H&R	1	-	-	-	1
Fish Barrier Net/Gunderboom	1	-	-	-	1
Relocate Intake to Submerged Offshore with Passive Screen	1	-	-	-	1
Velocity Cap	1	-	-	-	1
Double-Entry, Single-Exit with Fine Mesh and Fish H&R	-	-	-	1	1
None	4	1	1	-	6
Total	**12**	**1**	**2**	**1**	**16**
Compliance Cost (millions, 2002$)[b]	**$7.7**	**w[b]**	**w[b]**	**w[b]**	**$9.0**

[a] Combination and "other" CWSs are costed as if they were once-through CWSs.
[b] Data withheld because of confidentiality reasons.

Source: U.S. EPA analysis for this report.

E1-4 Phase II Facilities in the South Atlantic Regional Study

Table E1-3 presents economic and operating characteristics of the South Atlantic Study facilities.

Table E1-3: Phase II Facilities in the South Atlantic Study

EIA Code	Plant Name	Plant State	NERC Region	Steam Plant Type	2001 Capacity (MW)	2001 Net Generation (MWh)	I&E Data?
Estuary/Tidal River							
207	St Johns River Power	FL	FRCC	Coal Steam	1,358	10,216,337	N
609	Cape Canaveral	FL	FRCC	O/G Steam	804	3,833,694	N
613	Lauderdale	FL	FRCC	Combined Cycle	1,863	6,164,232	N
617	Port Everglades	FL	FRCC	O/G Steam	1,665	5,199,333	N
619	Riviera	FL	FRCC	O/G Steam	621	3,055,683	N
658	Henry D King	FL	FRCC	O/G Steam	142	58,332	N
667	Northside Generating	FL	FRCC	O/G Steam	1,407	2,686,013	N
668	Southside Generating	FL	FRCC	O/G Steam	0	523,577	N
683	Indian River Plant	FL	FRCC	O/G Steam	343	67,733	N
693	Vero Beach Municipal	FL	FRCC	O/G Steam	158	234,560	N
715	McManus	GA	SERC	O/G Steam	644	96,889	N
734	Riverside	GA	SERC	O/G Steam	106	199	N
6014	Brunswick	NC	SERC	Nuclear	1,790	13,843,547	N
3298	Williams	SC	SERC	Coal Steam	687	4,193,258	N
3319	Jefferies	SC	SERC	Coal Steam	578	1,728,504	N
Ocean							
6045	St Lucie	FL	FRCC	Nuclear	1,700	13,437,086	N

Source: U.S. EPA analysis for this report.